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Military's Future in Space: A Matter of War or Peace

By JOHN NOBLE WILFORD

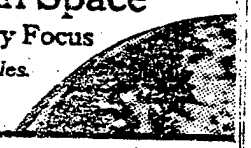
The seemingly inexorable push toward expanded military operations in space has raised some of the most complex and difficult questions ever faced by the world's political and military leaders. Is this course truly inevitable, given the nature of man and international rivalries? Will it reduce the risk of war or merely lead to another, more costly phase of the arms race and turn man's newest frontier into a potential battleground?

Many military planners and their political allies, reciting maxims of sea-

Buildup in Space

A New Military Focus

Last of three articles.



power, airpower and the foot soldier's "high ground," tend to take for granted the strategic value of space and its ultimate exploitation by the superpowers, the United States and the Soviet Union. They believe that the widespread militarization of space cannot be avoided and advocate the development of new weapons and defenses that, if deployed, would fulfill their prophecy.

History, they contend, is in their camp. Ronald H. Stivers, Assistant Deputy Under Secretary of Defense for policy, said recently: "History teaches us that each time a new medium is opened to man it is exploited to gain a military advantage. The course of world affairs has repeatedly been altered by the nation which first grasped the advantages offered by developing the military potential of the newest medium."

Others, including former Pentagon officials and advisers, as well as arms-control advocates, express worry that a major extension of the arms race into space might be a waste of resources and in any event could upset the current balance of nuclear terror, making the world more vulnerable to nuclear war. They are pressing for the resumption of arms-control negotiations between the United States and the Soviet Union aimed at a treaty or some tacit understanding to limit the deployment of weapons in space.

At a United Nations conference on space last August, Secretary-General Javier Pérez de Cuéllar warned that an arms race in space would increase the "potential for confrontation" between nations. "We must oppose vigorously the increased militarization of outer space," he said. "We have time — but very little."

Space is already a realm of considerable military activity, but of the passive kind. Both superpowers have for years used satellites for such applications as early warning against nuclear attack, intelligence gathering and long-range communications. Such operations, it is generally agreed, have had a stabilizing effect because they enabled each adversary to verify the other's conformance to the SALT I treaty limiting strategic weapons. They presumably minimize the chances of surprise and miscalculation.

But if current trends continue and proposed technologies come into being, the world in the early 21st century, just two decades from now, could be ringed with legions of space warriors. There could be robot battle stations armed with laser guns, scores of antisatellite weapons ready to be maneuvered against a hostile target and permanent orbital command posts. There would also be small spaceplanes, piloted or unpiloted, on patrol in the area of suspicious satellites, inspecting them and perhaps disabling them, as well as handling specific reconnaisance missions.

Battles in Space

The battle stations could be poised to use intense light rays to destroy an adversary's nuclear-armed missiles as they arc into space and before they can come down on their targets on the earth. Like aircraft carriers in hostile waters, however, such battle stations would have to be protected against attack. They might be surrounded by space mines and decoys, coated with a reflective surface to turn away enemy laser beams and shielded against blasts of incoming radiation. Other orbiting craft vital to defense operations would likewise have to be protected, perhaps even escorted by robot warrior craft.

These scenarios, redolent with science fiction imagery, are being pondered as very real possibilities. Dr. Herman Kahn, the futurist who heads the Hudson Institute at Croton-on-Hudson, N.Y., is not sure all these technologies will be ready by the turn of the century, but he does foresee the day when "clean wars" could be fought in space.

A crisis could develop on the earth, prompted, say, by pressure on a place like Berlin, that would trigger a large-scale mobilization of forces. In such future times of confrontation, Dr. Kahn says, it is possible that the combat would be waged entirely beyond the earth, a duel of blazing lasers, particle beams and anti-satellite weapons.

Disputing contentions that such a war might be preferable to a holocaust on the earth, Dr. Richard Garwin, a physicist at the International Business Machines Corporation and longtime Government adviser on military matters, predicted that a space war would simply be "a prelude to war on earth because so much of our capability, and theirs, is dependent on space."

'A Lot of Guts'

Dr. Kahn suggested that spacefighting superpowers would be operating under the same restraints as they do now with regard to nuclear weapons. "I'm not suggesting war in space, but if a war is going on it space," Dr. Kahn said, "it would take a lot of guts or recklessness for the powers to transfer it to land."

But if war broke out on the earth, military strategists point out, it would most likely spread into space. For this—

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reason, they say, talk of demilitarizing space is unrealistic. Dr. Robert S. Cooper, director of the Pentagon's Defense Advanced Research Projects Agency, said that the United States "has not yet put a weapon in space and has no plans to put one in space." But as the superpowers deploy more satellites that provide crucial information for weapons on the ground, he added, the incentive to knock them out of operation increases, and "that's trouble."

Some experts express grave doubts as to how well several of the more exotic weapons would work, the lasers and particle beams in particular, and how important they would be in a conflict. They do not see any space weapon coming along for the next decade or two that could give either side a decisive military advantage.

But others note that the Soviet Union has been testing an antisatellite system, or ASAT, for years, among other space warfare technologies, and warn that the United States is moving too slowly with similar research. They fear that the country will wake up one day and find that the Soviet Union has seized the strategic advantage in space.

Senator Harrison Schmitt, the New Mexico Republican who is a former astronaut, criticized the Air Force for being "too reluctant" to push research in space weaponry.

In confidential documents setting forth what the armed services are expected to do in space over the next five years, however, the Reagan Administration said that "development and deployment of a capability to defend space assets is required, as is the capability to deny the enemy the use of his space systems that are harmful to our efforts during conflict."

Toward this end, the Defense Department recently disclosed plans to increase military space spending at a rate considerably higher than for other military increases. The money would support the testing of an American ASAT, the development of a space-based ballistic missile defense system using lasers, more research on particle-beam weapons, construction of space shuttle launching facilities for military operations and the continuation of present satellite programs. In addition, looking somewhat farther into the future, the Pentagon is supporting conceptual studies of space stations and spaceplanes with military roles.

Eight aerospace companies, under contract to the National Aeronautics and Space Administration but with some of the money coming from the Defense Department, are now examining possible scientific, commercial and military uses of a large orbiting space station. They are scheduled to deliver their reports next April. And the Air Force has formed a space-station working group in its Space Division.

Possible military missions on a space station would probably be similar in the beginning to many civil operations. The stations could be bases for developing large antennas, repairing satellites and testing new observational technologies. Eventually, Dr. Kahn said, space stations could serve as command and control centers overseeing the network of orbiting military vehicles and supplementing similar command posts on the ground. Such stations, according to current thinking, would probably not be bases for weapons, although they might be accompanied by armed escorts.

Officials of the civilian space agency say that if development begins in the next couple of years, the first space station could be in orbit by the early 1990's. The station would be a cluster of modules delivered to orbit by the space shuttles, then assembled.

In the 1960's, the Air Force began developing the Manned Orbiting Laboratory, which would have been a small space station, but the project was canceled for economic and political reasons. Soviet officials have predicted that later in this decade they will have a station in orbit capable of holding as many as 12 people and being permanently occupied. The Russians have set one flight endurance record after another with the astronauts who have occupied the Salyut stations, several of which were dedicated to military missions.

Although the space shuttles like the Columbia would be used as ferries to and from any American space station, the Pentagon has initiated preliminary investigations of another kind of re-usable vehicle, which could conceivably evolve into a space fighter. American officials have said that the Soviet Union is apparently developing a re-usable space vehicle that is considerably smaller than the Columbia but probably the size of other vehicles contemplated by the United States.

Since 1976, the Air Force and one of its contractors, the Aerospace Corporation, have been quietly studying the the re-usable aerospace vehicle. The spaceplane, propelled by rockets, would take off horizontally, like a fighter plane. To return from orbit, the winged vehicle would glide back to a runway landing. The Air Force has not moved beyond the study phase with this technology.

More recently, in another study for the Air Force, the Boeing Company proposed a spacecraft, known as an Air Launched Sortie Vehicle, that would leave the ground atop a modified 747 jetliner, rocket itself into space, then carry its payload into low earth orbit. As designed, the vehicle would be 52 feet long, have a wingspan of 30 feet and have a cargo bay 10 feet long by 5 feet wide. Although designed to be unmanned, it could be modified for manned missions.

The advantage of such spaceplanes over the shuttle or ordinary rockets is that they can go into action in a matter of hours, take off from most airports, enter space on any azimuth, operate for a few orbits and then return to an airport landing. Air Force officials would not discuss the types of missions such vehicles might perform. Their quick-response capability, but limited flight time, indicates that they might be used for emergency reconnaisance runs or to inspect hostile satellites. It is not known whether they are being considered for antisatellite warfare.

Alarm Among Experts

These developments, and perhaps many others on secret drawing boards in this country and the Soviet Union, alarm many American experts on foreign policy and defense technology. They fear that timing is running out, if a space arms race is to be prevented. Many of them, like Harold Brown, the Secretary of Defense in the Carter Administration, recommend that the United States must press to resume negotiations aimed at banning space weaponry.

An attempt was made in the Carter Administration to achieve a ban on antisatellite systems, the testing of which had been resumed by the Soviet Union. The 1967 Outer Space Treaty, ratified by both superpowers and most other countries, bans the stationing of nuclear and other weapons of mass destruction in space and forbids the use of the moon and other celestial bodies for military bases, weapons tests or military maneuvers. The loopholes are that the space weapons under consideration would not cause mass destruction and they would be in orbit of Earth, not on some celestial bodies.

The Carter negotiators in 1978 and 1979 stumbled over the issues of whether the American space shuttle was a weapon, as the Russians charged, and over the matter of how compliance with the treaty could be verified. The talks fell apart after the Soviet intervention began in Afghanistan.

Many arms control specialists outside the Government consider this a hopeful time to reopen the negotiations because of the stage of the antisatellite system development. The first tests of the American ASAT's are set to begin at the end of the year.

Under the circumstances, Dr. Brown wrote recently, the best that can be hoped for in such negotiations might be a declaration that attacks on satellites are a hostile act prohibited in peacetime and a limitation on the deployment of antisatellite systems to low orbits where they can be monitored.

Barring some such agreement, formal or tacit, an arms race between the United States and the Soviet Union could accelerate and spread far into the heavens.

"Today, the superpower cold war in space is entering a new, dangerous and destabilizing phase that — unless stopped — will make war more likely and less controllable," warned a paper published last summer by the Worldwatch Institute, a Washington-based study center. "A resource that could be a decisive factor for world peace is in danger of contributing to humanity's last war."

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